MAY
VOL.4

BULL-ETIN

SAN ANTONIO RADIO CLUB

President - Ivan Mangold WA5RNV
Vice President - Bill Ross K5LLK
Secretary - Mike Fritz WN5HLX
Treasurer - Frank Box WA5VFM
Sgt-at-Arms - Brenda & Linda Trappe

Meets first and third Fridays at 7:30 pm. at the Red Cross Building, 90 Brees St. All who have an INTEREST in amateur radio are cordially invited to attend.

Bull-etin Editor, Dean Davis W5BGE Typist, Maybelle Davis, XYL

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The PREZ SEZ

By IVAN WA5RNV

Just thinking, almost eight months of my term has passed and how few of my goals have been accomplished. Either our clocks run faster than before, or I've slowed down to a snail's pace...Dame Weather certainly threw a monkey wrench into my plans to attend the West Gulf ARRL Convention in Euless. Hail, up to grapefruit size, kept me hopping between Yoakum, Center Point and Leakey all weekend. I hope Roy W5EYB and Dean W5BGE will fill me in on all that I missed. Heard it was a tremendous success.

Do you have the weekend of June 23 & 24 set aside for Field Day? Bill K5TSR, 655-6285, is chairman. Call him and volunteer your equipment and/or help to man the stations we plan to operate.

Past Pres Bill: I've noted we are creeping up on your tenure "All Time High" in club membership. C'mon fellow members, I need your help! Thaz All, 73, Ivan WA5RNV.

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7290 NET PICNIC

The 7290 Traffic Net will hold a picnic at Bastrop State Park, May 18, 19 and 20. (NOTE DATE CHANGE.) According to Bill W5HWY there are no cabins in the park available, but there are several motels close by and of course plenty of camping facilities. The Texas Traffic Net members are also planning to be there too. All interested amateurs and their families are invited. Bring your own food & drinks.

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ARMY MARS MEETING

The Army MARS will hold its annual state meeting here in SA at the El Tropicano Motor Hotel, May 19 and 20. The theme of the convention will be "Communications in Emergencies".

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STEN CONVENTION

The 28th annual South Texas Emergency Net Convention will be held in Houston on June 8, 9 and 10. The convention site is on the west side of Houston at Holiday Inn West. The meeting is open to all interested amateurs and their families. For reservations or further info call Jerry Connaway W5KLV, phone 733-0653.

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QCWA MEETING

The SA chapter of the Quarter Century Wireless Association held its quarterly meeting at the home of Doc Phillips W5KJ. Among those attending were: W5EYB, W5GYW, WA5VFM, W5BGE, W5DUI, W5FKR, W5BE, W5EOS, W5EDX, W5KJ, W5LPO, K5YOQ, W5HIV, W5ZI, W5IUT and K5MIF.

Rocky Rhodes K5MIF gave a talk on the history of radio communication in the SA Police Department and information on future plans which proved very interesting. The chapter again agreed to set up and man the 20 CW station for Field Day along with SARC. By W5BGE.

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MAKE PLANS NOW FOR SARC CHRISTMAS PARTY SAT. DEC. 8.

TECHNICAL TOPICS

By W5LFM Cal Graf

Several months ago, the San Antonio Radio Club had a terrific meeting when they sponsored the Old Timers night. The turn out of the young and old members was rather heartening and many old acquaintances were renewed. Most of the old timers present were members of the Quarter Century Wireless Association (QCWA) and anyone present who had been licensed for more than 25 years was given an opportunity to tell of his experiences with amateur radio in the "good old days."

When the meeting was over and people reflected on the experiences related by the old timers, a number of members, especially the QCWA, realized that here was a living link with the past to the beginning of radio. And that they could again be able to tell of their wonderful experiences with radio--how their lives had been much fuller because of their association with many hans not only in San Antonio, Texas, but across the country and the world.

So it was decided by the QCWA that they would try to put togerther a written record of the experiences of each old timer. In the near future, all QCWA members and friends that have been licensed for more than 25 years will be contacted and asked to record their stories to that they might all be compiled, edited and published. The exact form depends on the response and the interest of the members.

Magnets have been around for thousands of years, but the electret is rather recent. The electret is an electrally charged material except that a dielectric stress is stored rather than a magnetic stress as in a magnet. The technique is very much like freezing the charge which is on a piece of Saran wrap and making use of it.

"Switchless switching" is possible in "Touch Tone" telephones where the touch really does the switching. Using a paper-thin sheet of electrically-charged material, the new dial needs no switches since the touch causes an electrical signal strong enough to activate the telephone dialing circuitry. The thin sheet, called a foil-electret, is a development of Bell Tel Labs. It will maintain an electrical charge almost indefinitely. In addition to touch dials, foil electrets may someday be used in keyboards of electronic typewriters, computer terminals, and such equipment. Tests made by Bell Tel showed that the output of the electrets did not change during some 400,000 touch operations.

Well, the mini-calculator craze continues to sweep the nation and about 2-million were sold in 1972. It is expected that double that will be sold in 1973 and 6-million by 1974 or 1975. It is expected that by the end of this year the cheapest of the simple models (add-subtract-multiplydivide) will probably cost about $40. However, since the HP-35 electronic slide rule by Hewlett Packard sold 50,000 copies last year at $395, don't expect to see their prices drop! I picked the Texas Instruments SR-10 for $150 as it performs the standard functions plus 1/X, X square, and square root of X. In addition, it handles scientific notation such as 6.3 times 10 to the 18. Imagine, being able to take the square root of 6.3 times 10 to the minus 99. (It's 7.9372539 times 10 to the minus 50).

Amateur satellite OSCAR VI continues to function well, repeating on 29.5 mhz.transmissions beamed to it in the 144 mhz band. Locally, W5VY, Pat Patterson, keeps upping his total so that he has the following box score: 620 contacts, 44 states, 3 continents (No, So. Am, Eur) and 8 countries. The most distant DX worked is GI5 in Ireland. Pat has also heard Norway, England, and Wales.

Some real DX was worked recently by the McDonald Observatory in the Texas' Davis Mountains. Using a ruby laser, astronomers at the University of Texas installation received signal returns on 25 Jan 73 from a retroreflector built by the French and left on the moon by the Soviet vehicle Lunokhod II. Using the 109 inch telescope for additional antenna gai (optical), the area illuminated on the moon was 1.5 miles in diameter. The laser fired at 3 second intervals to provide time for transit without interference (CW men know it's due to sending with the left foot). What is interesting is that of 10 to the 19th photons transmitted, about 10 returned to the telescope mirror. With additional loss in the optics, the receiver (a photo-detector) average output is reduced to one photon per shot. With that low a signal-to-noise ratio, a repeat of the signal report

might be in order!

Last August 72, there was a great solar outburst. Astronomers the world over were amazed because the activity was unusual for its timing--three years after the recognized peak of the 11-year solar cycle. At this time the sun is normally settling into quiescence. As a measure of the strength of the activity, NASA observers reported that in one hour the storm produced 100 million times the U. S. annual energy consumption. Keep those power bills coming. Good luck, W5LFM, Cal Graf.

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FIELD DAY

By W5TSR Bill Parry

Our annual emergency exercise, contest, or general get-together will be held this year on June 23-24. The Field Day period will start 1800 GMT on Saturday and end 1800 GMT on Sunday. Antenna raising ceremonies will begin as soon as the first brave soul is willing to start Saturday Morning. Our Field Day site will be the same as last year, Northeast Preserve. Signs will be provided at the entrance to direct people to the actual location within the Preserve.

This year food will not be provided--so you should make the necessary arrangements. Beer and soft drinks will be furnished by the Club. Emergency power for station operation will be available.

The operating classification that we will operate under will be Class B (200 watts DC or less). We are still in need of some fone operating positions and a number of operators, so ya'll come. We need (1) an 80-40 fone station, (2) 2M FM station, (3) tower sections, towers or poles, (4) beam antenna or antennas for 15 and 10 meters, (5) a novice station. If you can help in any of these areas, please contact me (655-6285).

An abstract of the rules follows:

I. Object: For portable and mobile stations to work as many stations as possible.

II. Entry Classification: Each entry is given a classification due to its power and number of transmitters.

III. Bands: Each fone and CW segment count as a separate band. A station may be worked on each band. No cross-band contacts are allowed.

IV. Exchange: Valid -- defined as the exchange of ARRL section and signal report.

V. Novice Station: Only class A stations with 3 or more transmitters may use a novice operating position without changing their basic entry classification. The novice position must use the novice call sign, log and check sheets.

VI. Scoring: The final score is determined by multiplying the total number of QSO's times power multiplier. Our power multiplier is 2 for 200 watts DC or less, and 3 for 10 watts or less. Emergency power must be used to claim the multiplier. Points may also be received for 100% emergency power, public relations activities, and field day messages handled.

For complete information, see pages 80-1, May QST. 73 Bill K5TSR.

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TEX CW SLOW SPEED NET

On 3748 Khz a slow speed net has been formed for operators who desire to pass traffic by CW and an opportunity to do so at a slower CW rate than is found on the NTS traffic nets. This frequency also allows novices to familiarize themselves with traffic handling. The net meets Sat. and Sun. evenings at 0200 GMT. Jim McCarthy WB5DBK, Houston, is net manager. According to TEX Bulletin, the April report showed QNI 58, QTC 16.

Here's your chance to become a CW traffic handler.

CLAY COMMENTS

INEXPENSIVE WWV CONVERTER

By CLAY W5ZPV

The Radio Shack Electronic Project Kit #28-133, WWV Converter, provides a good foundation for the construction of a WWV Converter. Four simple modifications to this kit will allow the construction of a high performance 10 mHz WWV Converter which will provide an IF (Intermediate Frequency) input into any BC (Broadcast) receiver. Any simple transistor radio, home or auto, can be used with this converter for excellent reception of the WWV time standard station at Ft. Collins, Colorado.

In its original form, the Radio Shack kit is constructed on one-half of the plastic packing case. This case can be used by the amateur as a chassis if desired. However, perf board or point-to-point construction may be used. The author used a mini-box (3 in.x 5 in.x 7 in.) with perf board construction. The Radio Shack Delux Metal Utility Cabinet (Part No. 270-253), size 5¼in.x3 in.x 5 7/8in. is recommended for a more professional job.

The four modifications to the original circuit are listed as follows:

a. Replace the RF input coil and capacitor (L1 and C1) with a more selective tuned circuit. The author used a Miller 22A000RBI Adjustable Coil Form (because it was available in the junk box). Any coil form of similar dimensions can be used (approximately ½ in. diameter x 1½ in. length). Wind 4 turns of AWG 22 wire for the antenna winding. Wind 25 turns of the same wire for transistor input stage with a tap approximately 7 turns from the bottom or ground end. Connect the tap connection to the base of Q1. Connect a 140 uuf variable capacitor across the secondary of the coil.

b. Install a crystal socket in lieu of the original crystal furnished with the kit. Now you have flexibility in selecting the crystal you desire for conversion. The author found the 11.63 mHz crystal furnished with the kit resulted in an IF output frequency (1630 kHz) too high for his auto radio. However, for initial testing, the 11.63 mHz crystal can be soldered across the crystal socket. Maybe your BC radio may tune up to 1630 kHz.

c. Install an on-off toggle switch on the front panel along with the above 140 uuf variable capacitor for the two operating controls. The toggle switch is wired in series with the battery lead (positive or negative side).

d. Wind an output coil around the L2, Ferrite Antenna Coil, to provide a low impedance output where required. This is very useful for converter with auto radios. Wind approximately 40 to 50 turns of AWG 28 wire. Use polystyrene "Q" dope to glue the coil to the coil form. The coil may be left off if desired as the original antenna coil will couple signals into a small portable transistor radio. However, the antenna coil will have to be mounted on the outside of the mini-box.

73, Clay W5ZPV.

(Schematic of this circuit will be found on following page.)

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FOR SALE

HW101, HP23, Mini-Products 6-20M, Vertical and mount (30 ft.) Johnson Matchbox (300 watt), mobile mike, fan, coax (150 ft. - RG-8U) Assorted connectors and switches. $425.00. Mark Erb WB5GBW
207 Honeysuckle
342-8417

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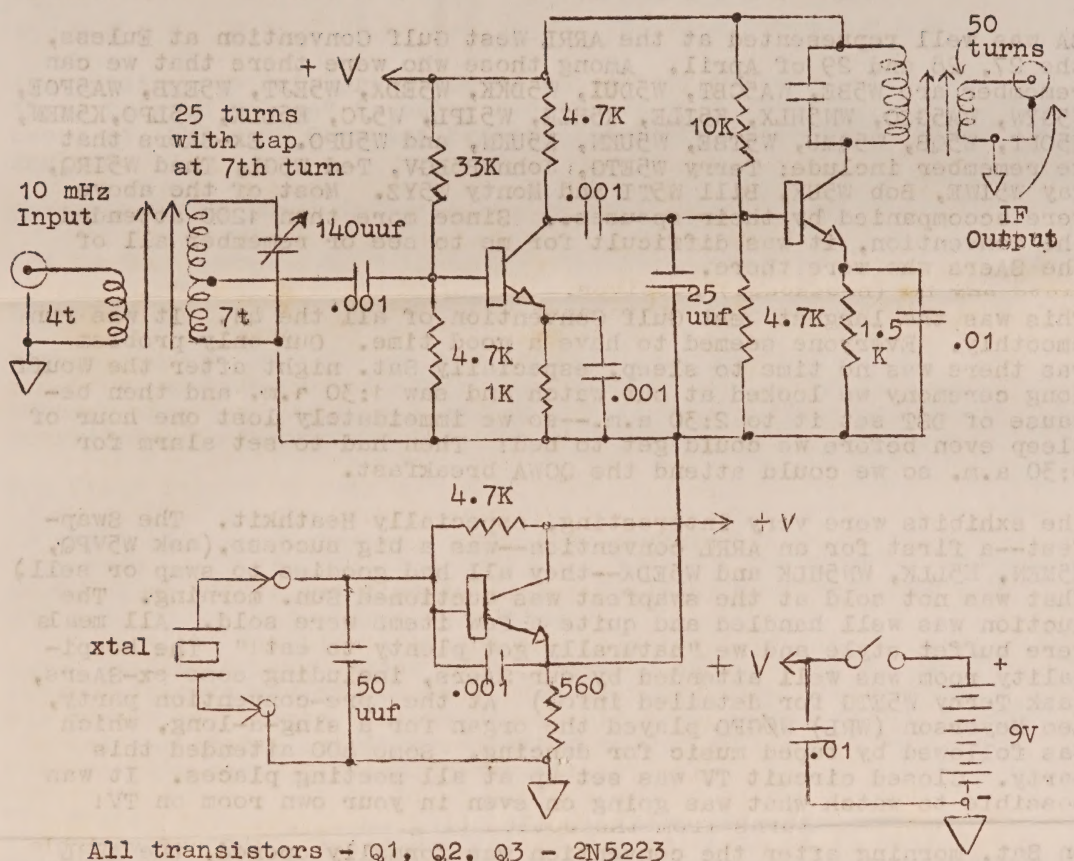
NEW ADDRESS - CHANGE ON YOUR SARC LIST OF MEMBERS: Tom Mann WA5SCB, 5315 Warcloud, 78241, San Antonio, Texas.

SCHEMATIC FOR THE WWV CONVERTER



All transistors - Q1, Q2, Q3 - 2N5223
xtal - 10.6 to 11.63 mHz
for 600 to 1163 kHz output

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SARO NEWS

By CORKY WB5CIT

In the executive meeting of San Antonio Repeater Organization, the officers voted to change the trustee of the repeaters to WB5FYO, Louan Wigton. She will be assisted in her control efforts by her husband, Bob WA5WON. Congratulations, Louan, on your new job! The relicensing of the repeaters has been finished and we are now awaiting word from the FCC.

A quick reminder on the use of the autopatch, NO business calls and please use your good judgment when using it. Those who have 2 meter FM capabilities and/or autopatch capabilities please report to me any emergency calls made via one of our repeaters so that I may enter the pertinent information in the organization's emergency logbook. I can be reached by either of the 2 meter repeaters or landline at 341-8006. These emergency records will be sent to Art Ross in Brownsville and then to QST in Newington, Connecticut for recognition.

One last item, don't forget our informal information net on 146.34/94 at 8 p.m. Wednesdays. Please check in, whether you are a member of SARO or not. Thanks.

73, Corky WB5CIT.

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S P L A T T E R ! Cal Graf W5LFM left 5 May for London, England, to attend a week-long technical symposium on "Traveling Onospheric Disturbances"..... Modern Electrotex is busily erecting a new building on Hilderbrand St. just east of IH 10. They hope to move into it late June or early July..... Homer K5MEN and Ross W5LLK have formed the D & R Electronics Company and have promised some good deals on ham gear..... Ex-SAer John WB5BGV was in SA May 6, 7, & 8 trying to straighten out the local telephone co. He is now a big shot with the Bell Tel. in Austin..... On May 2nd happy Jerry K5KLV passed his Extra Class license.

de Dean W5BGE.

CONVENTION REPORT By W5BGE.

SA was well represented at the ARRL West Gulf Convention at Euless, the 27, 28 and 29 of April. Among those who were there that we can remember are W5BE, WA5CBT, W5DUI, W5DKK, W5EDX, W5EJT, W5EYB, WA5FOE, W5GYW, WA5GZO, WN5HLX, K5ILE, K5HZR, W5IPL, W5JC, K5LLK, W5LPO, K5MEN, K5OPT, W5QB, W5QMU, W5TSE, W5UKN, K5UKN, and W5UPO. Ex-SAers that we remember include: Terry W5ETG, JohnWB5BGV, Ted W5GL, Thad W5IRQ, Ray W5IWE, Bob W5UX, Bill W5TI and Monty W5YZ. Most of the above were accompanied by their spouses.. Since more than 1200 attended the convention, it was difficult for me to see or remember all of the SAers who were there.

This was the largest West Gulf Convention of all the 41. It was run smoothly. Everyone seemed to have a good time. Our only problem was there was no time to sleep, especially Sat. night after the Wouff Hong ceremony we looked at our watch and saw 1:30 a.m. and then because of DST set it to 2:30 a.m.--so we immeidately lost one hour of sleep even before we could get to bed! Then had to set alarm for 6:30 a.m. so we could attend the QCWA breakfast.

The exhibits were very interesting, especially Heathkit. The Swapfest--a first for an ARRL convention--was a big success,(ask W5VPQ, K5MEN, K5LLK, WN5HLK and W5EDX--they all had goodies to swap or sell.) What was not sold at the swapfest was auctioned Sun. morning. The auction was well handled and quite a few items were sold. All meals were buffet style and we "naturally got plenty to eat!" The hospitality room was well attended by our SAers, including some ex-SAers, (ask Terry W5ETG for detailed info.) At the pre-convention party, Leo Meyerson (WRL) WØGFO played the organ for a sing-a-long, which was followed by taped music for dancing. Some 400 attended this party. Closed circuit TV was set up at all meeting places. It was possible to watch what was going on even in your own room on TV!

On Sat. morning after the convention was formally opened, the ARRL forum was moderated by our West Gulf Director, Roy W5EYB. The ARRL President, Harry Dannals W2TUK, and ARRL Communications Manager, George Hart W1NJM, along with Roy, ably handled all questions involving the policies of ARRL. The forum was so well received that it is obvious that there is a need for more time for this part of the program at future conventions.

The technical program was admirably arranged and supervised by Ted Bensinger W5PCX. It included: SSTV--An Introduction; Amateur Applications of Visible Light Emitting Diodes; State of the Art of UHF Communications; FM and Repeater Workshop. Other program were on MARS, RACES, Field Day and DX Contests. All meetings were packed. Larry W5QMU very capably headed up the panel on "FM and Repeater Workshop", assisted by George W5VPQ and Roy W5EYB.

Some 80 prizes totaling more than $3000 were given away, including a ICOM IC20 2M FM xceiver, Gladding 25, Heathkit SS-102 with HP-23B and SB600, and a Tempo One.

At the Sat. night Banquet some 800 were well fed. ARRL President Harry Dannals was the main speaker. He challenged us to maintain the integrity of amateur radio by refraining from emotional remarks during this period of crisis and by supporting the guidance offered by the League. From the number of favorable comments voluntarily extended to Dannals after the talk, it was apparent the ARRL president is highly regarded in this division.

The convention committee worked hard for a year. The timing and arrangements certainly reflected favorably upon their efforts.

The ladies' activities were well planned. Their program included a tea and fashion show, hospitality room, playing "RADIO" (this was actually Bingo) and other games, winding up with a well attended coffee on Sunday morning with our gracious Hazel Albright as hostess.

The convention offered many of us a chance to renew acquaintances, make new friends and eyeball some of the guys we had talked to over the air--we had a good time and are looking forward to the next one.

73, Dean W5BGE.

STUDY OF LDE PHENOMENON

A startling new interpretation of the rarely observed phenomenon of "Long Delayed Echoes" is being researched by a small group of engineers at EMI's SE Computer Peripherals plant in Feltham, Middlesex, England.

The effect was first investigated by radio pioneers in the 1920's.

Led by Tony Lawton, SE's technical manager, the group is setting up an experiment to test an hypothesis by Scottish researcher, Duncan Lunan.

Lawton and his team are conducting the investigation in their own time, but with EMI's full backing. Even if they disprove Lunan's theory, they hope to shed light on a phenomenon that has puzzled scientists for decades.

The first report of LDEs was published in a letter to Nature on November 3, 1928 by the ionospheric expert, the late Prof Carl Stormer of Oslo. He and engineer, Jorgen Hals observed LDEs on transmissions made by Dr. van der Pol using the Philips experimental transmitter PCJJ at Eindhaven in Holland. The frequency used was 9.55 MHz with 15 kW into a long wire aerial.

Morse letter "S" was repeated at intervals of 30 seconds, and received almost instantaneously by Stormer and Hals. Also noticed was the fairly common one-seventh second echo effect as the signals circled the globe, but other distinct echoes were heard with intervals varying between 3 and 15 seconds.

The French workers, J. B. Calle and G. Talon observed LDEs in May 1929 using a 500 watt transmitter on a wavelength of 25 metres. A description of the very long sequence of echoes with delays between 1 and 30 seconds was published by Galle in "L'Onde Electrique" Vol. 9, 1930.

Lunan's interpretation of these results will be published in the March edition of "Spaceflight" and the key lies in the plotting of a simple graph for each echo sequence.

The sequence of transmitted signals is plotted along the horizontal axis, while the delay of the echo (in seconds) is plotted on the vertical axis.

Stormer's sequence plotted in this way gives a pattern which Lunan points out bears a striking resemblance to the constellation Bootis.

The graphs for other sequences yield plots of many other recognisable stars and constellations.

Overall, the information if such it is, decoded by Lunan is consistent with the hypothesis that LDEs are being returned by a space probe that arrived in the solar system from the star Bootis some 13,000 years ago to search for intelligent life, as manifested by radio transmissions.

Tony Lawton and his colleagues plan to put this to the test by beaming transmissions, probably using a high powered 144MHz transmitters and a high gain aerial.

(Ed. Note: This article appeared in the April '73 issue of The International Amateur Radio Union, Region 1 News. It is along the same line of Cal Graf's recent article in the BULL-etin.)

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June 23-24

Make plans now!

ARRL ARRL NEWS AND VIEWS FROM THE DIRECTOR ARRL ARRL

Our largest West Gulf Division convention is now history. Editor Dean Davis has given a comprehensive report on a preceding page. To the committee, who labored a year in planning it we owe a great debt of thanks. They did a magnificent job. Of course a few things went awry, that always happens in an operation of this size, but on balance, it was a great convention. It is regrettable all our amateurs in the division could not have been there.

INTERNATIONAL AFFAIRS

On 4 May, the International Affairs Committee of ARRL, of which I am a member, met in Birmingham, Ala., to continue development of plans for the next ITU Conference, expected to be held about 1978. The deeper we get into the problems the more obvious it becomes that a tremendous effort will be required by us all, if we are to be successful in retaining our frequency privileges. I am optomistic, provided we are willing to devote the necessary energy and resources.

MESSAGE HANDLING

The new rules on message handling continue to present a real hazard unless we are very careful to insure full compliance (and are blessed with unfailing judgment). The League is continuing its efforts to obtain changes, or a liberal interpretation.

QST DELIVERY

League records were converted to computer operation in April, and the computer (which cannot make mistakes!) fouled up, and all Life Members (including this Director) failed to receive QST on schedule. Then when Hq attempted to straighten it out, the list became delayed in transit to the printer. As a result, many of us got our May issue before the April one arrived. Also, there were other computer errors; so, if you have not received your April AND May issues please write Hq and so inform them, right away.

QSL BUREAU

Morris Guzick, W5IO, co-manager (with K5LIW) of the Fifth District QSL Bureau was a San Antonio visitor this past week-end. I invited Morris to plan one of his San Antonio trips so he can visit the club on one of our meeting nights and give us all insight into operation of the League's QSL service. Morris and Bob, K5LIW, with a dozen or so assistants handle approximately 30,000 incoming QSL cards a month for amateurs in Texas, Okla, Ark, NM, La, and Miss!

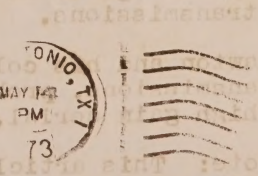
REGULATORY

You may recall reading in QST that at the January board meeting I had introduced a motion (unanimously passed) directing a petition be filed with FCC to permit a free re-exam for those who fail the code test the first time. Noting that this was not included in our most recent filing I discussed this matter with the Executive Committee at Birmingham. I have been assured by Counsel Booth he will file an amended petition. I will keep you advised of developments.

73,

ROY L. ALBRIGHT, W5EYB DIRECTOR.

San Antonio Radio Club
P.O. Box 62
San Antonio, TexAS
78291



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